Claims

What is claimed is:

1   1.   A method for backing up a cluster having one or more nodes, comprising:

2   providing a primary coordinator operative with the cluster; and

3   providing a backup service for each of said nodes, the backup service further operative

4   with said primary coordinator;

5   communication backup information by the primary coordinator to the backup service of a

6   first node after an application has been moved to the first node from a second node.

1   2.   A method for backing up a cluster having one or more nodes, comprising:

2   providing a primary coordinator executing on a first node of the cluster;

3   providing a backup service for each of the nodes, each backup service operative with the

4   primary coordinator;

5   detecting the failure of a node hosting the primary coordinator;

6   moving the primary coordinator to a second node of the cluster;

7   initializing the primary coordinator on the second node;

8   obtaining failover information by the primary coordinator from a cluster service of the

9   second node.

1   3.   The method of claim 2, further comprising:

2   updating a backup operations database by the primary coordinator.

1   4.   The method of claim 3, further comprising:

2   communicating backup information to the backup service for the second node by the

3   primary coordinator.

1   5.   The method of claim 4, further comprising:

2   performing backup operations by the backup services.

1   6.   The method of claim 5, wherein the backup operation is performed to a pre-assigned

2   drive.

1   7.   The method of claim 6, wherein the backup operation is through a SAN.

1   8.   The method of claim 5, further comprising:

2   checkpointing a backup job state.

1   9.   The method of claim 8, further comprising:

2   communicating the state with the primary coordinator.

1   10.   The method of claim 8, wherein checkpointing occurs periodically.

1   11.   The method of claim 9, further comprising:

2   communicating one or more job schedules to one or more of the backup services.

1   12.   A system comprising:

2   a cluster having two or more nodes, each of the nodes constructed and arranged to

3   execute at least one application, each of said nodes further executing a backup service;

4   a primary coordinator executing on one of the two or more nodes, the primary

5   coordinator constructed and arranged to coordinate the backup of data on the nodes by

6   communiating backup information to the backup services.

1   13.   The system of claim 12, wherein the system is constructed and arranged to move the

2   primary coordinator to a new node of the two or more nodes in the event that the node hosting

3   the primary coordinator fails.

1   14.   The system of claim 12, wherein the system is constructed and arranged to move an

2   application to a new node of the two or more nodes in the event that the node hosing the

3   application fails.

1   15.   The system of claim 14, wherein the primary coordinator receives one or more failover

2   details from the a client service.

1   16.   The system of claim14, wherein the system in constructed and arranged for the backup

2   services on the two or more nodes perform one or more backup operations to one or more

3   assigned tape drives.

1   17.   The system of claim 16, wherein the backup services are accomplished through a SAN.

1   18.   The system of claim 16, wherein the backup service periodically checkpoints a backup

2   job state.

1   19.   The system of claim 18, wherein the backup service communicates the backup job state

2   to the primary coordinator.

1   20.   The system of claim 13, wherein the primary coordinator is constructed and arranged to

2   update a backup operations database to reflect the failure of the node hosting the primary

3   coordinator.

1   21.   The system of claim 20, wherein the update contains information from a client service

2   that is executing on one of the two or more nodes.

1   22.   The system of claim 21, wherein the primary coordinator communicates backup

2   information to a backup service executing on the new node.

1   23.   The system of claim 22, wherein the backup information includes information about a

2   backup job that was running previously so that a restart may be initiated.

1   24.   The system of claim 23, wherein the restart is a checkpoint restart.

1   25.   The system of claim 23, wherein the restart is a fresh restart.

2   26.   A cluster having one or more nodes, each of the nodes being a computer having one or

3   more microprocessors, and having memory operative with the one or more microprocessors, the

4   cluster further having at least one SAN that is operative with each of the nodes, the cluster

5   comprising:

6   a backup service on each of the nodes; and

7   a primary coordinator executing on one of the nodes, the primary coordinator constructed

8   and arranged to direct the backup service on each of said nodes to backup data on the node

9   through the SAN.